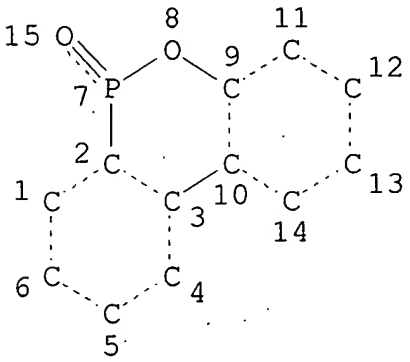
FILE 'HCAPLUS' ENTERED AT 11:10:24 ON 24 APR 2006
L8 14 S L4(L)RACT+NT/RL AND L7(L)PREP+NT/RL

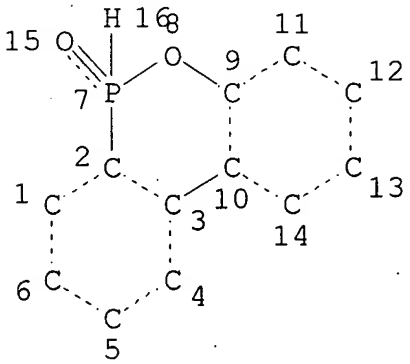
FILE 'REGISTRY' ENTERED AT 11:12:36 ON 24 APR 2006

FILE 'REGISTRY' ENTERED AT 11:12:55 ON 24 APR 2006

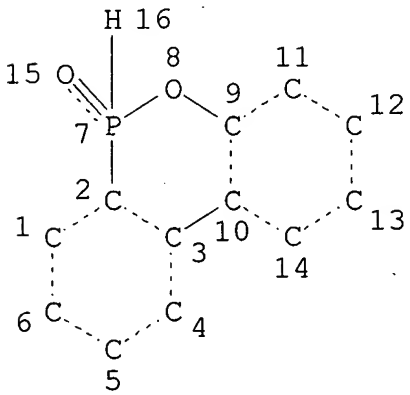
=> str l1
:dis



:att 7 h vn se
:dis



:mov 16 u2,dis



```
:end
L9   STRUCTURE CREATED

=> s l9 sub=l4 sam
SAMPLE SUBSET SEARCH INITIATED 11:14:02 FILE 'REGISTRY'
SAMPLE SUBSET SCREEN SEARCH COMPLETED -       99 TO ITERATE

100.0% PROCESSED       99 ITERATIONS                                  9
ANSWERS
SEARCH TIME: 00.00.01

PROJECTIONS (WITHIN SPECIFIED SUBSET):          ONLINE  **COMPLETE**
PROJECTED ITERATIONS (WITHIN SPECIFIED SUBSET):       1384 TO
2576
PROJECTED ANSWERS (WITHIN SPECIFIED SUBSET):             9 TO
360

L10            9 SEA SUB=L4 SSS SAM L9

=> s l9 sub=l4 full
FULL SUBSET SEARCH INITIATED 11:14:10 FILE 'REGISTRY'
FULL SUBSET SCREEN SEARCH COMPLETED -     1846 TO ITERATE

100.0% PROCESSED     1846 ITERATIONS                                127
ANSWERS
SEARCH TIME: 00.00.01

L11          127 SEA SUB=L4 SSS FUL L9

=> b hcap
COST IN U.S. DOLLARS                            SINCE FILE      TOTAL
                                                  ENTRY    SESSION
FULL ESTIMATED COST                               40.28     645.29

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)      SINCE FILE      TOTAL
                                                  ENTRY    SESSION
CA SUBSCRIBER PRICE                                0.00     -10.50

FILE 'HCAPLUS' ENTERED AT 11:14:15 ON 24 APR 2006
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)


Copyright of the articles to which records in this database refer is
held by the publishers listed in the PUBLISHER (PB) field (available
for records published or updated in Chemical Abstracts after December
26, 1996), unless otherwise indicated in the original publications.
The CA Lexicon is the copyrighted intellectual property of the
the American Chemical Society and is provided to assist you in
searching
databases on STN.  Any dissemination, distribution, copying, or
storing
```

of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 24 Apr 2006 VOL 144 ISS 18
FILE LAST UPDATED: 23 Apr 2006 (20060423/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> l11 (l)ract+nt/rl and l7(l)prep+nt/rl
L11 IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter "HELP COMMANDS" at an arrow prompt (=>).

=> s l11 (l)ract+nt/rl and l7(l)prep+nt/rl
582 L11
2845537 RACT+NT/RL (10 TERMS)
168 L11 (L)RACT+NT/RL
165 L7
3456277 PREP+NT/RL (18 TERMS)
61 L7(L)PREP+NT/RL
L12 10 L11 (L)RACT+NT/RL AND L7(L)PREP+NT/RL

=> d ibib abs hitstr l12 tot

L12 ANSWER 1 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2006:293401 HCAPLUS
DOCUMENT NUMBER: 144:332992
TITLE: Fireproofing finishes containing phosphonic acid esters and manufacture of fire-resistant fibers using them
INVENTOR(S): Kobayashi, Junichi; Ishikawa, Akira; Kanehira, Ryoji
PATENT ASSIGNEE(S): Marubishi Oil Chemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

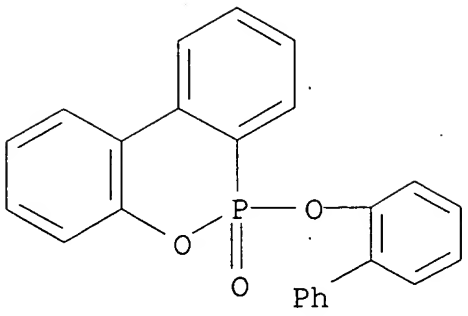
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006083491	A2	20060330	JP 2004-270028	20040916

PRIORITY APPLN. INFO.: JP 2004-270028
20040916

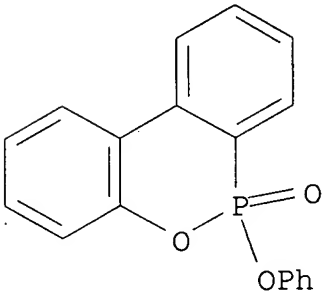
AB The finishes contain RC6H4OQ [I; R = H, (un)substituted hydrocarbyl; Q = 9,10-dihydro-10-oxo-9-oxa-10-phosphaphenanthren-10-yl] and are contacted to fibers to give the fire-resistant fibers. Manufacture of I by reaction of 9,10-dihydro-9-oxa-10-phosphaphenanthrene 10-oxide (II) with halogen compds. in the presence of amines and dehydrohalogenation reaction of the resulting XQ (X = halo) with RC6H4OH is also claimed. Thus, 30.8 g CCl4 was added dropwise to CH2Cl2 containing II 32.4, phenol 14.1, and Et3N 17.2 g at ≤15° and stirred for 1 h to give 43.5 g I (R = H), 40 parts of which was added to a mixture of polyoxyethylene distyrenated phenol ether sulfate 5, 10% aqueous CM-cellulose solution 2, and H2O 53 parts and dispersed to give a fireproofing finish. A 90/10 regular polyester/cationic dyeable polyester fabric was padded with a liquid containing 20% of the finish, dried, heat-set, washed with soda ash, and dried to show good fire resistance even after washing or dry cleaning.

IT **36240-30-9P 55217-59-9P**, 6-Phenoxy-6H-Dibenz[c,e][1,2]oxaphosphorin-6-oxide **880138-78-3P**, 6-(3-Methylphenoxy)-6H-Dibenz[c,e][1,2]oxaphosphorin-6-oxide **880138-79-4P**, 6-(4-tert-Butylphenoxy)-6H-Dibenz[c,e][1,2]oxaphosphorin-6-oxide **880138-80-7P**, 6-(4-n-Octylphenoxy)-6H-Dibenz[c,e][1,2]oxaphosphorin-6-oxide
RL: **IMF (Industrial manufacture)**; MOA (Modifier or additive use); PRP (Properties); **PREP (Preparation)**; USES (Uses)
(fireproofing finishes based on phosphonic acid esters with good washfastness)

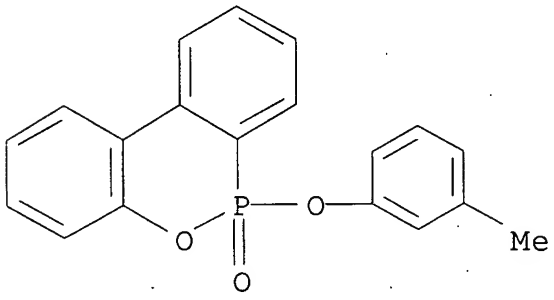
RN 36240-30-9 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-([1,1'-biphenyl]-2-yloxy)-, 6-oxide (9CI) (CA INDEX NAME)



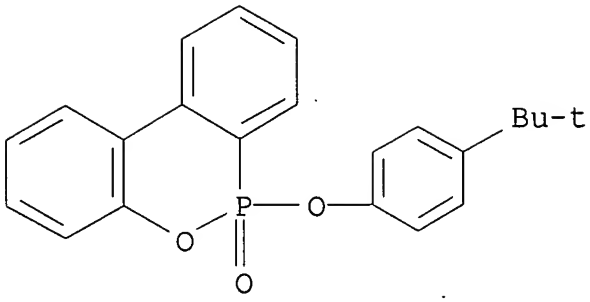
RN 55217-59-9 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-phenoxy-, 6-oxide (9CI) (CA INDEX
NAME)



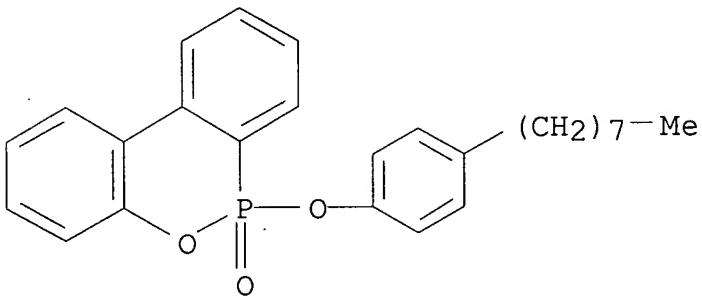
RN 880138-78-3 HCAPLUS
CN 6H-Dibenzo[c,e][1,2]oxaphosphorin, 6-(3-methylphenoxy)-, 6-oxide (9CI)
(CA INDEX NAME)



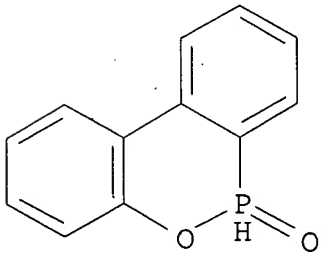
RN 880138-79-4 HCAPLUS
CN 6H-Dibenzo[c,e][1,2]oxaphosphorin,
6-[4-(1,1-dimethylethyl)phenoxy]-,
6-oxide (9CI) (CA INDEX NAME)



RN 880138-80-7 HCAPLUS
CN 6H-Dibenzo[c,e][1,2]oxaphosphorin, 6-(4-octylphenoxy)-, 6-oxide (9CI) (CA INDEX NAME)



IT **35948-25-5**, 9,10-Dihydro-9-oxa-10-phosphaphenanthrene 10-oxide
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(fireproofing finishes based on phosphonic acid esters with good washfastness)
RN 35948-25-5 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-oxide (9CI) (CA INDEX NAME)



L12 ANSWER 2 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:141621 HCAPLUS
DOCUMENT NUMBER: 143:172925
TITLE: Arylation of 6H-dibenzo[c,e][1,2λ5]oxaphosphini

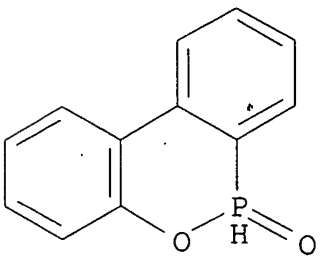
ne 6-oxide

AUTHOR(S): Beletskaya, I. P.; Neganova, E. G.; Veits, Yu. A.
CORPORATE SOURCE: Faculty of Chemistry, Lomonosov Moscow State University, Moscow, 119992, Russia

SOURCE: Russian Journal of Organic Chemistry (2004), 40(12), 1782-1786
CODEN: RJOCEQ; ISSN: 1070-4280
PUBLISHER: MAIK Nauka/Interperiodica Publishing
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 143:172925

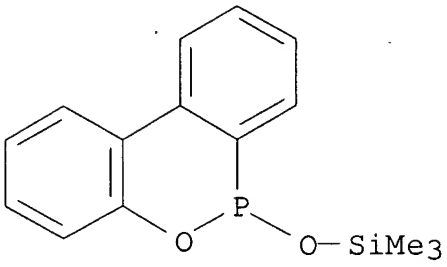
AB Arylation and alkylation of 6H-dibenzo[c,e][1,2λ5]oxaphosphinine 6-oxide at the phosphorus atom was accomplished. Tetrafluoro-4-pyridyl fragment was introduced via reaction of 6-trimethylsiloxy-6H-dibenzo[c,e][1,2]oxaphosphinine with pentafluoropyridine. The arylation of the title compound with aryl iodides containing both electron-acceptor and electron-donor substituents was effected under catalysis by palladium or nickel complexes.

IT **35948-25-5**
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(palladium or nickel catalyzed arylation of dibenzooxaphosphinine oxide)
RN 35948-25-5 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-oxide (9CI) (CA INDEX NAME)



IT **861105-63-7P**
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation)**; RACT (Reactant or reagent)
(palladium or nickel catalyzed arylation of dibenzooxaphosphinine oxide)
RN 861105-63-7 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-[(trimethylsilyl)oxy]- (9CI) (CA

INDEX NAME)



REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 3 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:140870 HCAPLUS
DOCUMENT NUMBER: 142:198207
TITLE: Process for the preparation of 9,10-dihydro-9-oxa-10-
organophosphaphenanthrene 10-oxide and derivatives of
the same substituted on the phenyl groups
INVENTOR(S): Dittrich, Uwe; Just, Berthold; Doring, Manfred;
Ciesielski, Michael
PATENT ASSIGNEE(S): Germany
SOURCE: U.S. Pat. Appl. Publ., 12 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005038279	A1	20050217	US 2004-918838	20040813
DE 10338116	A1	20050317	DE 2003-10338116	20030815
EP 1512690	A1	20050309	EP 2004-18829	20040809

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR

PRIORITY APPLN. INFO.: DE 2003-10338116 A 20030815

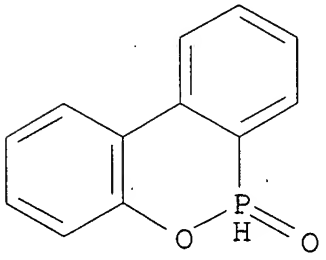
OTHER SOURCE(S): CASREACT 142:198207; MARPAT 142:198207

AB A process is provided for the preparation of 9,10-dihydro-9-oxa-10-organophosphaphenanthrene 10-oxide and derivs. of same substituted on the Ph groups, in which: (a) 9,10-dihydro-9-oxa-10-phosphaphenanthrene 10-oxide (DOP) or a derivative of same is reacted in the presence of at least one mono- or polyhydric alc. with at least one ortho ester with formation of a first intermediate product, (b) the intermediate product from step (a) is optionally reacted with at least one further mono- or polyhydric alc. with formation of a further intermediate product and (c) the intermediate product from steps (a) or (b) is transformed by addition of catalytic quantities of alkylation agent into 9,10-dihydro-9-oxa-10-organophosphaphenanthrene 10-oxide or a derivative of same substituted on the Ph groups.

IT **35948-25-5**, 9,10-Dihydro-9-oxa-10-phosphaphenanthrene-10-oxide
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(preparation of substituted Ph group derivs. of dihydro oxaorganophosphaphenanthrene oxide useful as flame retardants)

RN 35948-25-5 HCAPLUS

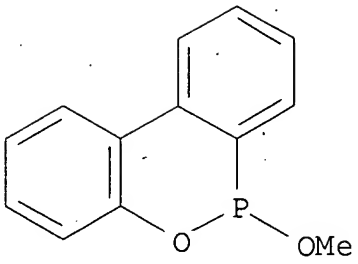
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-oxide (9CI) (CA INDEX NAME)



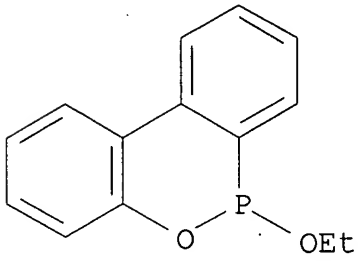
IT **37632-28-3P 194091-96-8P**
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation)**; RACT (Reactant or reagent)
(preparation of substituted Ph group derivs. of dihydro oxaorganophosphaphenanthrene oxide useful as flame retardants)

RN 37632-28-3 HCAPLUS

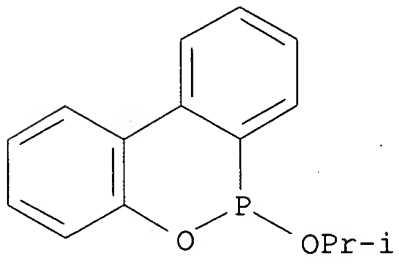
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-methoxy- (9CI) (CA INDEX NAME)



RN 194091-96-8 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-ethoxy- (9CI) (CA INDEX NAME)



IT **585573-01-9P**
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of substituted Ph group derivs. of dihydro oxaorganophosphaphenanthrene oxide useful as flame retardants)
RN 585573-01-9 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-(1-methylethoxy)- (9CI) (CA INDEX
NAME)



L12 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:135413 HCAPLUS
DOCUMENT NUMBER: 142:198206
TITLE: Process for the preparation of 9,10-dihydro-9-oxa-10-
organophosphaphenanthrene 10-oxide and derivatives of

the same substituted on the phenyl groups

INVENTOR(S): Dittrich, Uwe; Just, Berthold; Doering, Manfred;
Ciesielski, Michael

PATENT ASSIGNEE(S): Schill & Seilacher "struktol" Aktiengesellschaft,
Germany

SOURCE: Eur. Pat. Appl., 19 pp.
CODEN: EPXXDW

DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1506968	A1	20050216	EP 2004-18830	20040809
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
DE 10338131	A1	20050317	DE 2003-10338131	20030815
US 2005038278	A1	20050217	US 2004-918836	20040813

PRIORITY APPLN. INFO.: DE 2003-10338131 A 20030815
OTHER SOURCE(S): CASREACT 142:198206; MARPAT 142:198206

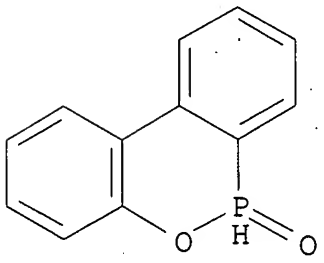
AB A process is provided for the preparation of 9,10-dihydro-9-oxa-10-organophosphaphenanthrene 10-oxide and derivs. of same substituted on the Ph groups, in which: (a) 9,10-dihydro-9-oxa-10-phosphaphenanthrene 10-oxide (DOP) or a derivative of same is reacted in the presence of at least one mono- or polyhydric alc. with at least one ortho ester with formation of a first intermediate product, (b) the intermediate product from step (a) is optionally reacted with at least one further mono- or polyhydric alc. with formation of a further intermediate product and (c) the intermediate product from steps (a) or (b) is transformed by addition of catalytic quantities of alkylation agent into 9,10-dihydro-9-oxa-10-organophosphaphenanthrene 10-oxide or a derivative of same substituted on the

Ph groups.

IT **35948-25-5**, 9,10-Dihydro-9-oxa-10-phosphaphenanthrene-10-oxide
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(preparation of substituted Ph group derivs. of dihydro oxaorganophosphaphenanthrene oxide useful as flame retardants)

RN 35948-25-5 HCAPLUS

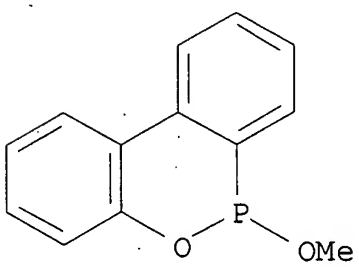
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-oxide (9CI) (CA INDEX NAME)



IT **37632-28-3P**
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation)**; RACT (Reactant or reagent)
(preparation of substituted Ph group derivs. of dihydro oxaorganophosphaphenanthrene oxide useful as flame retardants)

RN 37632-28-3 HCAPLUS

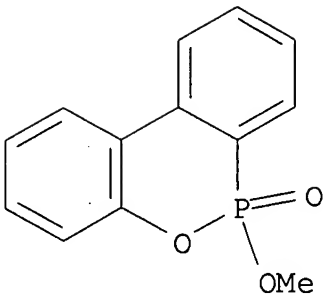
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-methoxy- (9CI) (CA INDEX NAME)



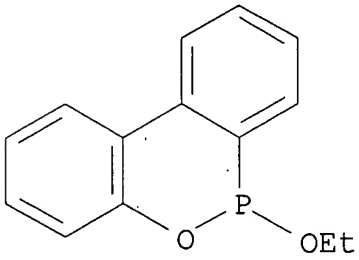
IT **103764-64-3P 194091-96-8P 585573-01-9P**
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of substituted Ph group derivs. of dihydro oxaorganophosphaphenanthrene oxide useful as flame retardants)

RN 103764-64-3 HCAPLUS

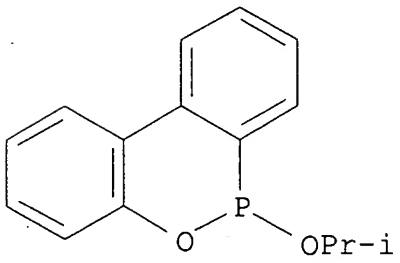
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-methoxy-, 6-oxide (9CI) (CA INDEX NAME)



RN 194091-96-8 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-ethoxy- (9CI) (CA INDEX NAME)



RN 585573-01-9 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-(1-methylethoxy)- (9CI) (CA INDEX
NAME)



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L12 ANSWER 5 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:678817 HCAPLUS
DOCUMENT NUMBER: 139:197621
TITLE: Method for producing 6-alkoxy-(6H)-dibenz[c,e][1,2]-

oxaphosphorins

INVENTOR(S): Sprenger, Stephan; Ciesielski, Michael; Kollann, Carsten; Doering, Manfred

PATENT ASSIGNEE(S): Forschungszentrum Karlsruhe G.m.b.H., Germany

SOURCE: PCT Int. Appl., 24 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

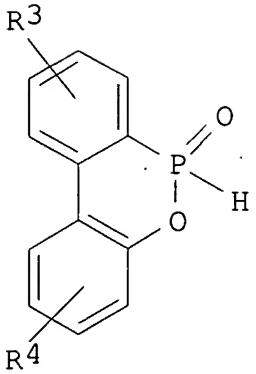
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003070736	A1	20030828	WO 2003-EP1368	20030212
W: JP, US				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR				
DE 10206982	A1	20030904	DE 2002-10206982	20020220
DE 10206982	B4	20040325		
EP 1476453	A1	20041117	EP 2003-702624	20030212
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, CY, TR, BG, CZ, EE, HU, SK				
JP 2005517740	T2	20050616	JP 2003-569643	20030212
US 2005176983	A1	20050811	US 2003-505201	20030212

PRIORITY APPLN. INFO.: DE 2002-10206982 A 20020220
WO 2003-EP1368 W 20030212

OTHER SOURCE(S): CASREACT 139:197621; MARPAT 139:197621

GI



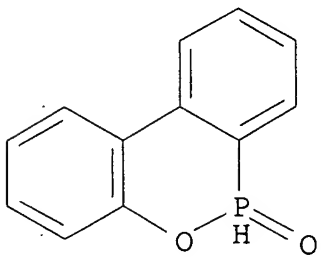
I

AB The invention relates to a method for producing 6-alkoxy-(6H)-dibenz[c,e][1,2]-oxaphosphorins, whereby 6H-dibenz[c,e][1,2]-oxaphosphorin-6-oxides I (R3, R4 = alkyl, alkoxy, alkylthio, alkenyl, alkynyl, aryl, heteroaryl, cycloalkyl) are used as adduct. Thus, reaction of 6H-dibenz[c,e][1,2]-oxaphosphorin 6-oxide with HCl in methanol at 85° for 45 min followed by treatment with concentrate HCl for 5 h and tri-Me orthoformate for 30 min gave 87% 6-methoxy-6H-dibenz[c,e][1,2]-oxaphosphorin.

IT **35948-25-5**, 6H-Dibenz[c,e][1,2]-oxaphosphorin 6-oxide
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(method for producing alkoxydibenzoxaphosphorins starting from dibenzoxaphosphorin oxides)

RN 35948-25-5 HCAPLUS

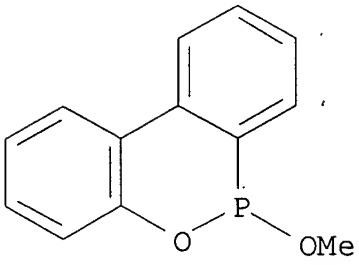
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-oxide (9CI) (CA INDEX NAME)



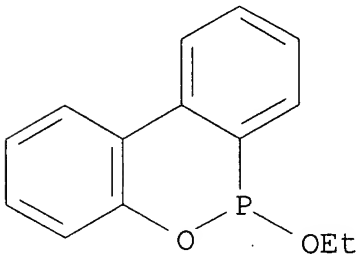
IT **37632-28-3P**, 6-Methoxy-6H-dibenz[c,e][1,2]-oxaphosphorin
194091-96-8P, 6-Ethoxy-6H-dibenz[c,e][1,2]-oxaphosphorin
585573-01-9P, 6-Isopropoxy-6H-dibenz[c,e][1,2]-oxaphosphorin
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(method for producing alkoxydibenzoxaphosphorins starting from dibenzoxaphosphorin oxides)

RN 37632-28-3 HCAPLUS

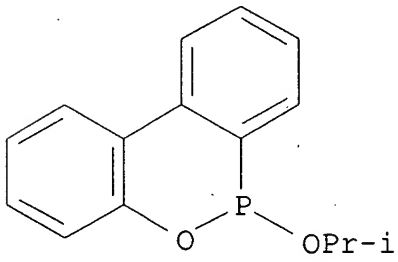
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-methoxy- (9CI) (CA INDEX NAME)



RN 194091-96-8 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-ethoxy- (9CI) (CA INDEX NAME)



RN 585573-01-9 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-(1-methylethoxy)- (9CI) (CA INDEX
NAME)



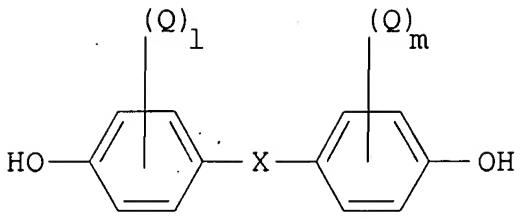
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L12 ANSWER 6 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:274797 HCAPLUS

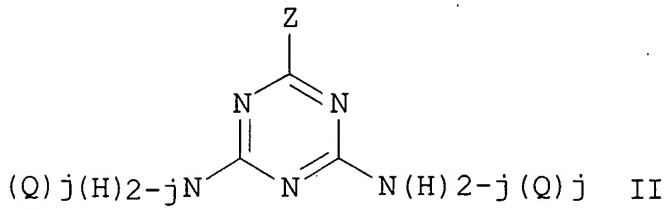
DOCUMENT NUMBER: 138:288481
TITLE: Phosphorus-containing fire-resistant curing agents and epoxy resins, advanced epoxy resins, and cured epoxy resins containing them
INVENTOR(S): Wang, Chun Shan; Hsieh, Cheng Yueh; Lin, Ching Yuan
PATENT ASSIGNEE(S): Taiwan
SOURCE: Jpn. Kokai Tokkyo Koho, 29 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003105058	A2	20030409	JP 2001-386377	20011219
JP 3653247	B2	20050525		
TW 593526	B	20040621	TW 2001-90123251	20010920
US 2003120021	A1	20030626	US 2002-66455	20020130
US 6797821	B2	20040928		
US 2005004339	A1	20050106	US 2004-896567	20040722

PRIORITY APPLN. INFO.: TW 2001-90123251 A 20010920
US 2002-66455 A3 20020130
GI



I

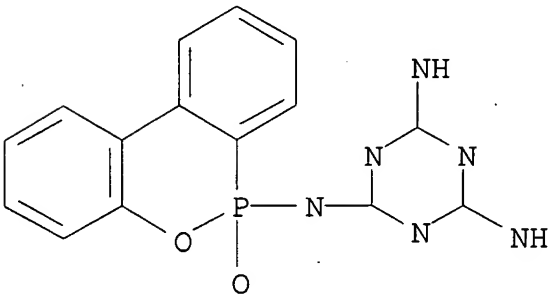


II

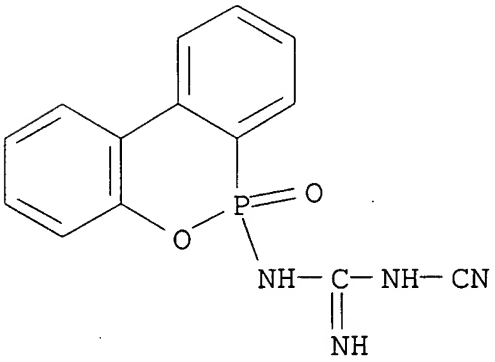
AB The curing agents are selected from I, NH2-iQiC6H4-p-XC6H4-p-NH2-jQj, triazine derivs. II, N.tplbond.CN:C(NH2-jQj)NH2-iQi, Q'C(NH2)2NHC(Q'):NH, H2NC(:NH)NHC(Q'):NH, and N.tplbond.CNH1-kQ'kC(:NQ')NH2-iQ'i [l, m, i, j = 0-2; l + m > 0; 0 < i + j < 4; k = 0-1; i + k < 3; Z = NH2, Me, Ph; X = direct link, CH2, CMe2, cyclohexylidene, O, S, SO2; Q = Q'CR1R2, Q'; Q' = 6-oxido-6H-dibenz[c,e][1,2]oxaphosphorin-6-yl, Ar2P(O); R1, R2 = H, C1-18 alkyl, C6-18 (un)substituted aryl, C6-18 (un)substituted arylmethylene; Ar = C1-4 alkyl- or C6-18 aryl-(un)substituted Ph or phenoxy]. Epoxy resins containing the curing agents are useful for semiconductor device packaging. Thus, bisphenol A was reacted with equimolar (6-oxido-6H-dibenz[c,e][1,2]oxaphosphorin-6-yl)methanol in the presence of AcOK to give [(6-oxido-6H-dibenz[c,e][1,2]oxaphosphorin-6-yl)methyl]bisphenol A, 228 g of which was treated with 564 g bisphenol A diglycidyl ether at 160° for 2 h in the presence of EtPPh3Cl to give an epoxy resin. The epoxy resin was cured with a novolak to show 5% weight loss temperature 387° in air and N and good fire resistance.

IT **507264-76-8P 507264-78-0P**
RL: **IMF (Industrial manufacture)**; RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(phosphorus-containing fire-resistant curing agents for epoxy resins)

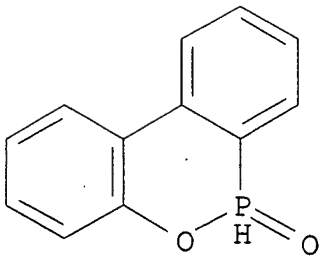
RN 507264-76-8 HCAPLUS
CN 1,3,5-Triazine-2,4,6-triamine,
N-(6-oxido-6H-dibenz[c,e][1,2]oxaphosphorin-
6-yl)- (9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE
RN 507264-78-0 HCAPLUS
CN Guanidine,
N-cyano-N'-(6-oxido-6H-dibenz[c,e][1,2]oxaphosphorin-6-yl)-
(9CI) (CA INDEX NAME)



IT **35948-25-5**, 9,10-Dihydro-9-oxa-10-phosphaphenanthrene 10-oxide
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(phosphorus-containing fire-resistant curing agents for epoxy resins)
RN 35948-25-5 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-oxide (9CI) (CA INDEX NAME)



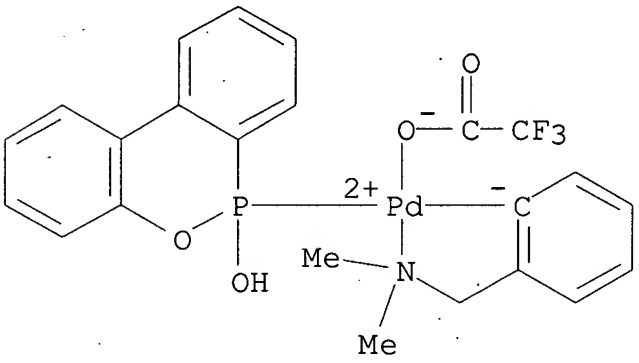
L12 ANSWER 7 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:134074 HCAPLUS
DOCUMENT NUMBER: 138:321381
TITLE: The role of ligand transformations on the performance of phosphite- and phosphinite-based palladium catalysts in the Suzuki reaction
AUTHOR(S): Bedford, Robin B.; Hazelwood, Samantha L.; Limmert, Michael E.; Brown, John M.; Ramdeehul, Shailesh; Cowley, Andrew R.; Coles, Simon J.; Hursthouse, Michael B.
CORPORATE SOURCE: School of Chemistry, University of Exeter, Exeter, EX4 4QD, UK
SOURCE: Organometallics (2003), 22(7), 1364-1371
CODEN: ORGND7; ISSN: 0276-7333
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 138:321381

AB The ortho-metalated complex [{Pd(μ-Cl){κP,κC-P(OC6H2-2,4-tBu2)(OC6H3-2,4-tBu2)2}}2] reacts with phenylboronic acid hydrate and K2CO3 in dimethylacetamide to give oxo-bridged diaryl phosphite complex [Pd{κP,κC,κO-μ2-O-P(O)(OC6H2-2,4-tBu2)(OC6H3-2,4-tBu2)(DMAc)}] (11). When the reaction is repeated in DMF, the coupling product, 3,3',5,5'-tetra-tert-butyl-2,2'-biphenol (12) was isolated. The reaction of palladium dichloride with phosphinite PiPr2(OC6H4-4-Et) in 2-methoxyethanol followed by recrystn. in the presence of ethanol gave the palladium complex of the transesterified phosphinite ligand, trans-[PdCl2{PiPr2(OEt)}2] (14). The mol. structure of 11, 12 and 14 was confirmed by x-ray crystallog. To determine whether related solvolytic

processes have an effect on catalytic activity, the performance of a range of catalysts with "hydrolyzed" and "nonhydrolyzed" ligands was assessed in the Suzuki coupling of aryl bromides. Palladium ortho-metalated dimethylbenzylamine and phosphite complexes with extra hydroxyphosphinite and secondary phosphite ligands, [Pd(C6H4CH2NMe2-κC,κN)(L1-κP)] (16, L1 = 6-hydroxy-6H-dibenzo[c,e][1,2]-oxaphosphorin), [Pd(L2-κC,κP)Cl]2 (3e, L2 = (2,4-di-tert-butylphenyl)(methylenebis-2,2'-[6-tert-butyl-4-methylphenyl]) phosphite), and in situ formed [Pd(C6H4CH2NMe2-κC,κN)(L2-κP)] and [Pd(C6H4CH2NMe2-κC,κN)(L3-κP)] (L3 = (hydroxy)(methylenebis-2,2'-[6-tert-butyl-4-methylphenyl]) phosphite) were tested as Suzuki coupling catalysts, showing moderate activity. In some cases it was evident that hydrolysis plays a significant role on the catalytic activity; however, this depends not only on the ligand, but also on the combination of ligand and palladium precursor.

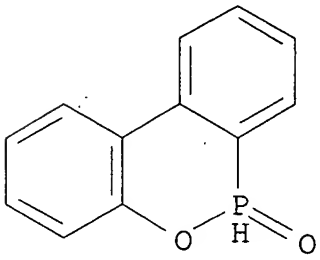
IT **512778-81-3P**
RL: CAT (Catalyst use); **SPN (Synthetic preparation); PREP (Preparation)**; USES (Uses)
(Suzuki coupling catalyst; preparation and Suzuki coupling catalytic activity of palladium cyclometalated complexes with partially hydrolyzed ligands)

RN 512778-81-3 HCAPLUS
CN Palladium, [2-[(dimethylamino-κN)methyl]phenyl-κC](6-hydroxy-6H-dibenz[c,e][1,2]oxaphosphorin-κP6)(trifluoroacetato-κO)-, (SP-4-3)- (9CI) (CA INDEX NAME)



IT **35948-25-5**
RL: CAT (Catalyst use); **RCT (Reactant); RACT (Reactant or reagent)**; USES (Uses)

(Suzuki coupling co-catalyst, complexation; preparation and Suzuki coupling
catalytic activity of palladium cyclometalated complexes with partially
hydrolyzed ligands)
RN 35948-25-5 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-oxide (9CI) (CA INDEX NAME)

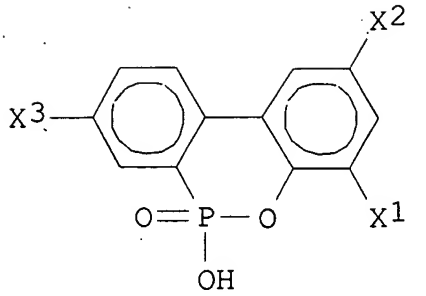


REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

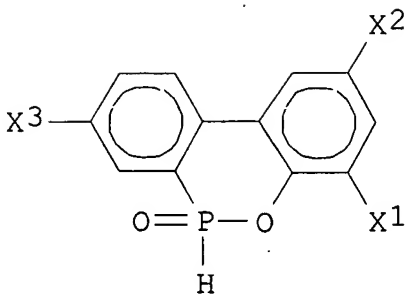
L12 ANSWER 8 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:371569 HCAPLUS
DOCUMENT NUMBER: 134:354012
TITLE: Synthesis of organophosphorus compounds and their
metal salts
INVENTOR(S): Saito, Toranosuke; Ikemoto, Kenichi; Horii, Hisashi
PATENT ASSIGNEE(S): Sanko Kaihatsu Kagaku Kenkyusho K. K., Japan; Saito
Kaseihin Kenkyusho Y. K.
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001139586	A2	20010522	JP 1999-322773	19991112

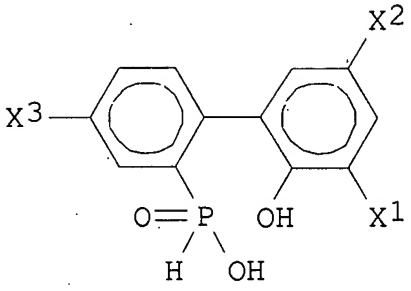
PRIORITY APPLN. INFO.: JP 1999-322773 19991112
OTHER SOURCE(S): MARPAT 134:354012
GI



I



II



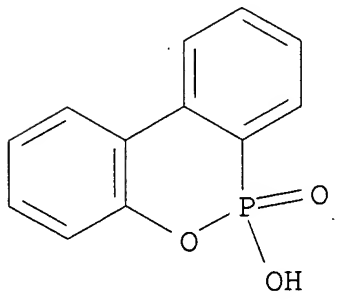
III

AB Cyclic organophosphorus compound I, useful as fire retardant and stabilizer for polymeric electronic and optical materials, is synthesized by hydrogen peroxide oxidation of compound II or III in the presence of water and in the presence or absence of an inert polar organic solvent followed by dehydrocyclization (X1-3 = H, halogen, alkyl, cycloalkyl, aryl, aralkyl).

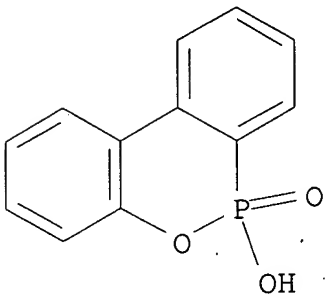
IT **36240-31-0P 69151-14-0P 121166-84-5P**
RL: **IMF (Industrial manufacture); PREP (Preparation)**
(synthesis of organophosphorus compds. and their metal salts)

RN 36240-31-0 HCAPLUS

CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-hydroxy-, 6-oxide (9CI) (CA INDEX NAME)

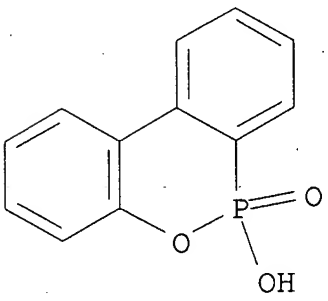


RN 69151-14-0 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-hydroxy-, 6-oxide, zinc salt (9CI)
(CA INDEX NAME)



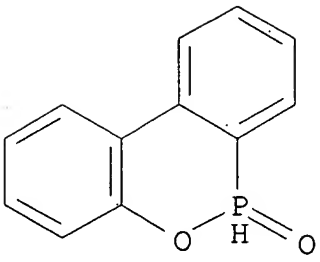
●1/2 Zn

RN 121166-84-5 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-hydroxy-, 6-oxide, aluminum salt (9CI)
(CA INDEX NAME)

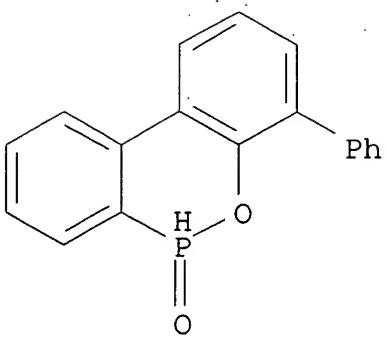


●1/3 Al

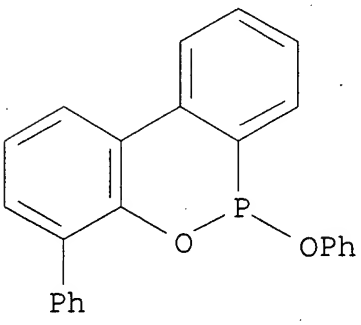
IT **35948-25-5**, HCA
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(synthesis of organophosphorus compds. and their metal salts)
RN 35948-25-5 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-oxide (9CI) (CA INDEX NAME)



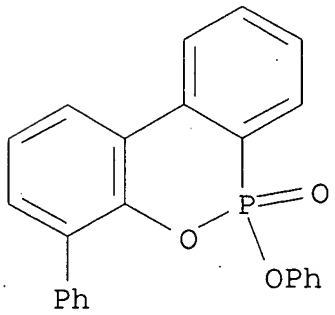
L12 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1998:433491 HCAPLUS
DOCUMENT NUMBER: 129:149025
TITLE: Synthesis and Characterization of Novel 6-Substituted
4-Phenyl-6H-dibenz[c,e][1,2]oxaphosphorins
AUTHOR(S): Qureshi, Asfia; Hay, Allan S.
CORPORATE SOURCE: Department of Chemistry, McGill University, Montreal,
QC, H3A 2K6, Can.
SOURCE: Journal of Chemical Research, Synopses (1998), (7),
355, 1601-1615
CODEN: JRPSDC; ISSN: 0308-2342
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Novel 6-substituted 4-phenyl-6H-dibenz[c,e][1,2]oxaphosphorins were
synthesized, starting from the reaction of 2,6-diphenylphenol with P
trichloride using Zn chloride as catalyst.
IT **67362-63-4P**
RL: **RCT (Reactant)**; SPN (Synthetic preparation); PREP (Preparation); **RACT (Reactant or reagent)**
(preparation of dibenzoxaphosphorins from phenols and phosphorus
trichloride)
RN 67362-63-4 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 4-phenyl-, 6-oxide (9CI) (CA INDEX
NAME)



IT **210899-90-4P 210899-99-3P**
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(preparation of dibenzoxaphosphorins from phenols and phosphorus
trichloride)
RN 210899-90-4 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-phenoxy-4-phenyl- (9CI) (CA INDEX
NAME)



RN 210899-99-3 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-phenoxy-4-phenyl-, 6-oxide (9CI) (CA
INDEX NAME)



REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1981:157828 HCAPLUS
DOCUMENT NUMBER: 94:157828
TITLE: Flameproofing agent and flame-retardant plastic resin compositions
INVENTOR(S): Saito, Toranosuke; Ohishi, Hiroyuki
PATENT ASSIGNEE(S): Sanko Kaihatsu Kagaku Kenkyusho, Japan
SOURCE: Ger. Offen., 36 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3010375	A1	19801002	DE 1980-3010375	19800318
DE 3010375	C2	19841129		
JP 55124792	A2	19800926	JP 1979-31162	19790319
JP 59053296	B4	19841224		
JP 56104949	A2	19810821	JP 1980-6906	19800125
FR 2451937	A1	19801017	FR 1980-5922	19800317
FR 2451937	B1	19830909		
BE 882283	A1	19800918	BE 1980-199839	19800318
NL 8001591	A	19800923	NL 1980-1591	19800318
NL 186961	B	19901116		
NL 186961	C	19910416		
GB 2049696	A	19801231	GB 1980-9104	19800318
GB 2049696	B2	19830615		
US 4317769	A	19820302	US 1980-131722	19800319

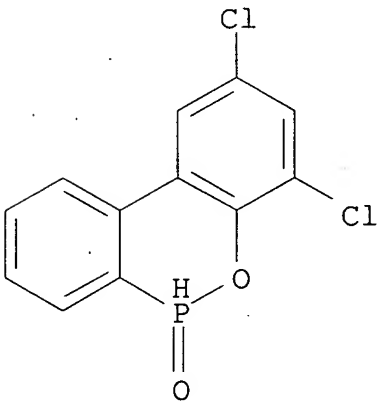
PRIORITY APPLN. INFO.: JP 1979-31162 A 19790319
JP 1980-6906 A 19800125

AB Alkali metal or alkaline earth salts of cyclic esters of (2'-hydroxy-2-biphenylyl)phosphonic acid or its derivs. are flame retardants for

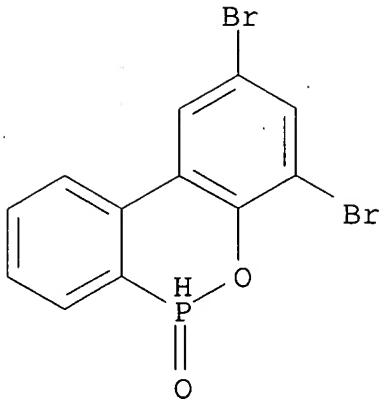
plastics. Thus, heating HOCH2CH2OH solns. of (9,10-dihydro-1,3-dichloro-9-phospha-10-oxaphenanthren-9-oxide [61910-28-9] with NaOH at 170-208° for 8 h and acidification gives the corresponding cyclic phosphonate [76965-46-3], neutralization of which gives the Na salt (I) [76965-47-4]. Bisphenol A polycarbonate [24936-68-3] containing 2 phr I has UL-94 flammability rating V-O, compared with HB with no retardant.

IT **61910-28-9 72741-96-9 72741-98-1 76964-81-3 76964-83-5 76964-85-7 76964-96-0**
RL: **RCT (Reactant); RACT (Reactant or reagent)** (oxidation of)

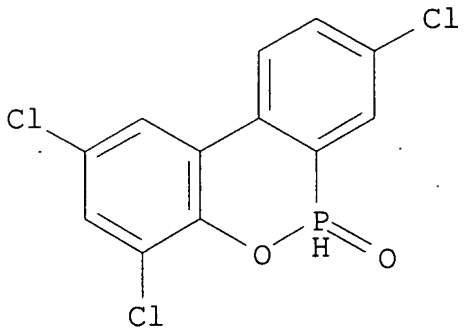
RN 61910-28-9 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 2,4-dichloro-, 6-oxide (9CI) (CA INDEX NAME)



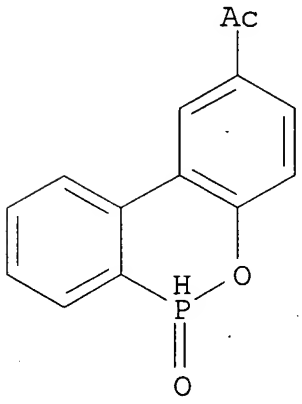
RN 72741-96-9 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 2,4-dibromo-, 6-oxide (9CI) (CA INDEX NAME)



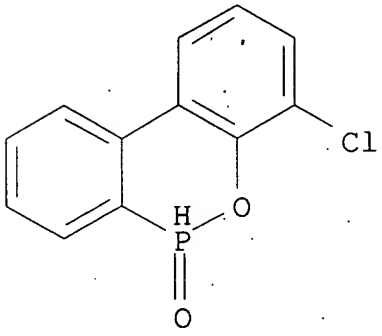
RN 72741-98-1 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 2,4,8-trichloro-, 6-oxide (9CI) (CA INDEX NAME)



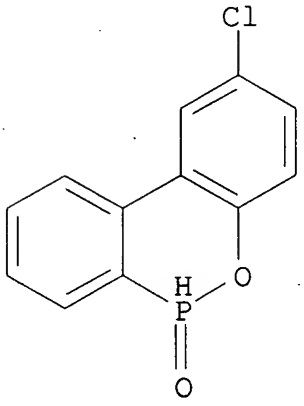
RN 76964-81-3 HCAPLUS
CN Ethanone, 1-(6-oxido-6H-dibenz[c,e][1,2]oxaphosphorin-2-yl)- (9CI) (CA INDEX NAME)



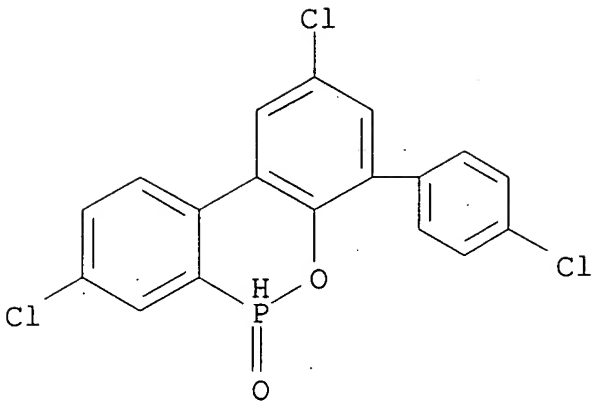
RN 76964-83-5 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 4-chloro-, 6-oxide (9CI) (CA INDEX
NAME)



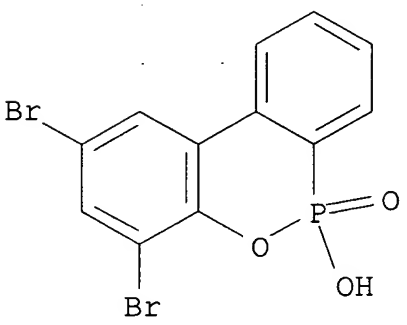
RN 76964-85-7 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 2-chloro-, 6-oxide (9CI) (CA INDEX
NAME)



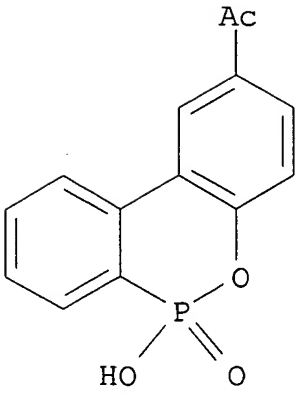
RN 76964-96-0 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin,
2,8-dichloro-4-(4-chlorophenyl)-,
6-oxide (9CI) (CA INDEX NAME)



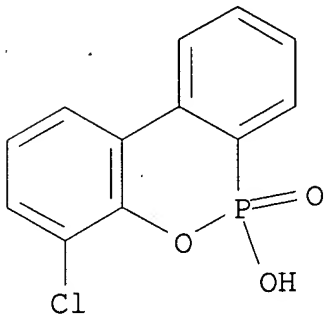
IT **76964-80-2P 76964-82-4P 76964-84-6P**
76964-86-8P 76964-88-0P 76964-89-1P
76964-91-5P 76964-93-7P 76964-94-8P
76964-95-9P 76964-97-1P 76965-46-3P
RL: **PREP (Preparation)**
(preparation of)
RN 76964-80-2 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 2,4-dibromo-6-hydroxy-, 6-oxide (9CI)
(CA INDEX NAME)



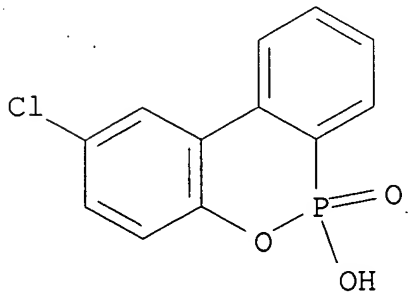
RN 76964-82-4 HCAPLUS
CN Ethanone, 1-(6-hydroxy-6-oxido-6H-dibenz[c,e][1,2]oxaphosphorin-2-yl)-
(9CI) (CA INDEX NAME)



RN 76964-84-6 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 4-chloro-6-hydroxy-, 6-oxide (9CI) (CA INDEX NAME)

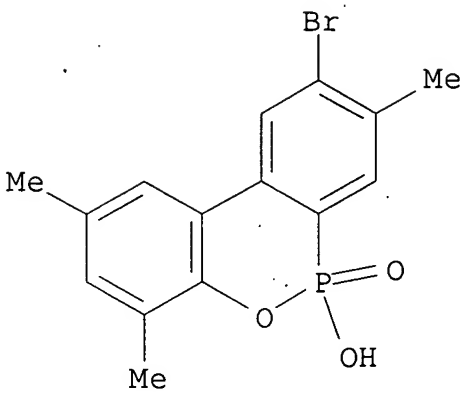


RN 76964-86-8 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 2-chloro-6-hydroxy-, 6-oxide (9CI) (CA INDEX NAME)

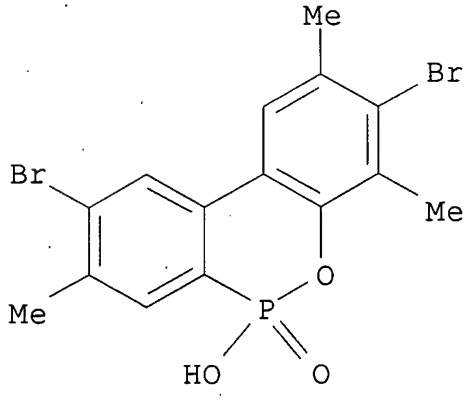


RN 76964-88-0 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 9-bromo-6-hydroxy-2,4,8-trimethyl-,

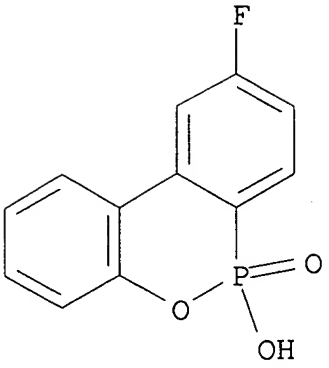
6-oxide (9CI) (CA INDEX NAME)



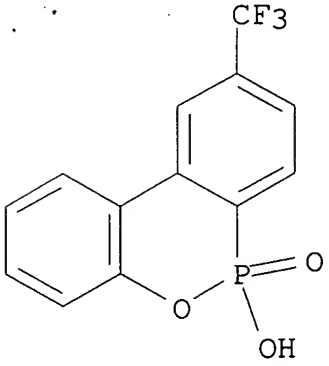
RN 76964-89-1 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 3,9-dibromo-6-hydroxy-2,4,8-trimethyl-, 6-oxide (9CI) (CA INDEX NAME)



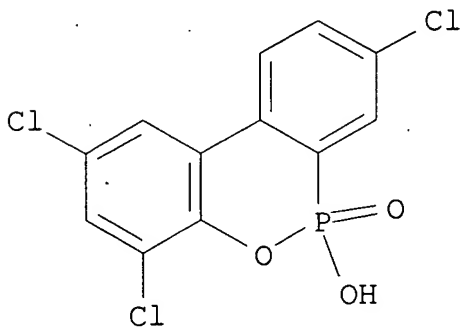
RN 76964-91-5 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 9-fluoro-6-hydroxy-, 6-oxide (9CI) (CA INDEX NAME)



RN 76964-93-7 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-hydroxy-9-(trifluoromethyl)-, 6-oxide (9CI) (CA INDEX NAME)

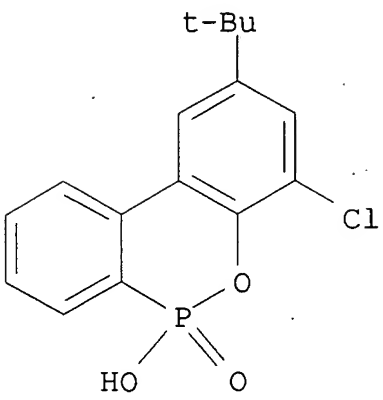


RN 76964-94-8 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 2,4,8-trichloro-6-hydroxy-, 6-oxide (9CI) (CA INDEX NAME)

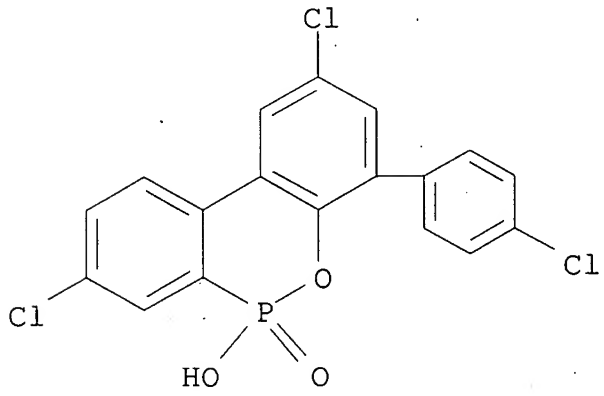


RN 76964-95-9 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 4-chloro-2-(1,1-dimethylethyl)-6-hydroxy-

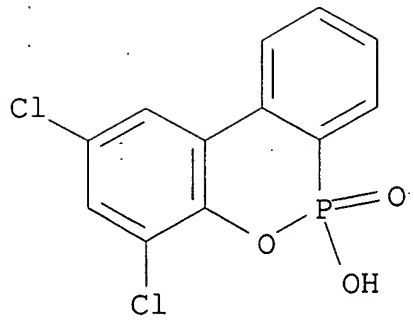
, 6-oxide (9CI) (CA INDEX NAME)



RN 76964-97-1 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 2,8-dichloro-4-(4-chlorophenyl)-6-hydroxy-, 6-oxide (9CI) (CA INDEX NAME)



RN 76965-46-3 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 2,4-dichloro-6-hydroxy-, 6-oxide (9CI)
(CA INDEX NAME)


Cl
O
P
O
OH
Cl